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EXAMINER

PATEL, GAUTAM

ART UNIT

PAPER NUMBER

2655

DATE MAILED: 03/02/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,033

Applicant(s)

KAMIOKA ET AL.

Examiner

Gautam R. Patel

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 20, 21 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20, 21 and 23-25 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. This is in response to amendment filed on 1-2-04 (Paper # 11).
2. Claims 1-17, 20-21 and 23-25 remain for examination.
3. Applicant's arguments regarding objection to drawings have been fully considered and objection has been **withdrawn**.

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8, and 10-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA, "Applicants Admitted Prior Art" (hereafter AAPA) in view of Taguchi, US. patent 6,011,768 (hereafter Taguchi) and Ito et al., US. patent 5,090,001 (hereafter Ito).

As to claim 1, AAPA discloses the invention as claimed [see Figs. 13-22], including a reproduction current generation section, a high frequency current generation section, a recording current generation section, and current driving section comprising:

a reproduction current generation section [fig. 17, unit 518] for generating the reproduction current [page 7-8; specification];

a high frequency current generation section [fig. 17, unit 519] for generating a high frequency current including a high frequency component for reducing semiconductor laser noise included in the reproduction [page 7-8; specification];

a recording current generation section [fig. 17, unit 518] for generating the recording current, the recording current including a pulse corresponding to the recording mark and the pulse including a plurality of multi-pulses [page 7-8; specification]; and

a current driving section [fig. 17, unit 511] for amplifying the reproduction current and the recording current, wherein the high frequency component included in the high frequency current generated by the high frequency current generation section is enhanced at the time of reproduction, and the high frequency component included in the recording current generated by the recording current generation section is enhanced at the time of recording [page 7-10; specification];

AAPA discloses all of the above elements, including a high frequency generator. AAPA does not specifically disclose a high pass filter for attenuation and a switch that switches this filter OFF and ON; and details that are normally associated with the filter.

However, it is well known in the art that most high pass filters are usually associated with noise and noise removal is essentially necessary for smooth operation of the system because noisy environment may cause spikes in the electrical system, thus corrupting or destroying valuable data or signals. Also Taguchi clearly discloses:

a filter [fig. 3, units 56, 55 and 90] for operating so as to attenuate the enhanced high frequency component included in the high frequency current generated by the high frequency current generation section and the enhanced high frequency component included in the recording current generated by the recording current generation section [col. 5, lines 8-23]; and

a switching section [fig. 6, unit 200] for switching the filter on or off so that the enhanced high frequency component included in the recording current is superposed on at least one of the plurality of multi-pulses included in the pulse of the recording current. [col. 8, line 36 to col. 9, line 4].

Both AAPA and Taguchi discloses a laser control circuit and a high frequency generation and control circuits and all associated details.

One of ordinary skill in the art at the time of invention would have realized that the high frequency generation and management of high frequency signals are inherently associated with noise. Since noise is an unwanted component in the system some kind of noise reduction or removal system is inherently necessary and desirable. Therefore, it would have been obvious to have used a high pass filter in the system of AAPA as taught by Taguchi because one would be motivated to reduce noise in the system of AAPA and provide better signal controls and improve quality of the signal by providing restriction to passage of low frequency noise components [col. 5, lines 12-22].

Combination of AAPA & Taguchi discloses all of the above elements, including a high frequency generator. Combination does not specifically discloses well known velocity tracking and generation of current based on the velocity to the extent claimed.

However, it is well known in the art that it is advantageous to combine fine and course actuator so as reduce the components and save money on layout and parts. Also Ito clearly discloses:

a high frequency component being extracted from the velocity signal in an optical disc environment [col. 7, line 52 to col. 8, line 13];

Both combination of AAPA and Taguchi and Ito discloses a laser control circuit and a high frequency generation and control circuits and all associated details.

One of ordinary skill in the art at the time of invention would have realized that cost of components and layout of extra components increase cost of system and many degradation takes place in the system due to components such as variation in temperature. And it would advantageous to remove these unwanted signals.

Therefore, it would have been obvious to have used a signal based on the velocity and fed it to the high-pass filter in the system of AAPA & Taguchi as taught by Ito because one would be motivated to reduce cost of system by combining several components and its operation together thus reducing cost of the system and also improve tracking performance of the system during degradation that is caused by temperature etc. [col. 1, lines 63-68].

6. As to claim 2, Taguchi discloses:

the current driving section has a frequency characteristic for enhancing the high frequency component, and the current driving section enhances the high frequency component included in the high frequency current generated by the high frequency current generation section at the time of reproduction and enhances the high frequency component included in the recording current generated by the recording current generation section at the time of recording [col. 2, lines 7-24 and col. 9, lines 17-24].

7. As to claim 3, Taguchi discloses:

switching section includes a switch connected to the filter and a timing control section [inherently present] for controlling the timing of opening or closing of the switch [col. 2, lines 7-24 and col. 9, lines 17-24].

NOTE: Since switching is done internally some timing circuit inherently has to switch OFF and ON.

8. As to claim 4, Taguchi discloses:

the at least one of the plurality of multi-pulses [fig. 13, pulse 134] includes a leading multi-pulse [fig. 13, pulse 135] [page 2, specification].

9. As to claim 5, Taguchi discloses:

the pulse fig. 13, 133] includes a specific pulse [fig. 13, 135 and 137] having a specific pattern [page 2, specification]; as to rest of the claim Taguchi discloses:

the switching section causes the filter to operate so that the enhanced high frequency component included in the recording current is superposed on the specific pulse [col. 2, lines 7-24 and col. 9, lines 17-24].

10. As to claim 6, AAPA discloses:

the recording mark includes a 3T mark recorded by 8-16 modulation [inherently present],

the specific pulse includes a 3T pulse corresponding to the 3T mark [fig. 20] [page 15; specification]. As to rest of the claim Taguchi discloses:

the switching section causes the filter to operate so that the enhanced high frequency component included in the recording current is superposed on the 3T pulse [col. 2, lines 7-24 and col. 9, lines 17-24].

NOTE: Since Taguchi covers all the pulses 3T pulse is also covered.

11. As to claim 7, Taguchi discloses:

the switching section causes the filter to operate so that the enhanced high frequency component included in the recording current is superposed on a portion of at least one of the plurality of multi-pulses included in the pulse [col. 2, lines 7-24 and col. 9, lines 17-24].

NOTE: Since Taguchi covers all the pulses one pulse is also covered.

12. As to claim 8, Taguchi discloses:

switching section causes the filter to operates so that the enhanced high frequency component included in the recording current is superposed on an entirety of at least one of the plurality of multi-pulses included in the pulse [col. 2, lines 7-24 and col. 9, lines 17-24].

NOTE: Since Taguchi covers all the pulses at least one of the plurality of multi-pulse is also covered.

13. As to claim 10, Taguchi discloses:

the switching section causes the filter to operate so that the enhanced high frequency component included in the recording current in superposed on all of the plurality of multi-pulses included in the pulse [col. 2, lines 7-24 and col. 9, lines 17-24].

NOTE: Since Taguchi covers all the pulses at least one of the plurality of multi-pulse is also covered.

14. As to claim 11, AAPA discloses:

the reproduction current is a DC current [see fig. 13 and page 2-3, specification]

15. As to claim 12, Taguchi discloses:

the switching section causes the filter to operate so that the enhanced high frequency component included in the high frequency current is superposed on the reproduction current at the time of reproduction, and causes the filter to operate so that the enhanced high frequency component included in the recording current is attenuated at the time of recording [col. 2, lines 7-24 and col. 9, lines 17-24].

16. As to claim 13, Taguchi discloses:

the high frequency -component has a frequency of 100 MHz or higher [col. 1, lines 47-63].

17. As to claim 14, Taguchi discloses:

the high frequency component has a frequency of 100 MHz [col. 1, lines 47-63].

Taguchi teaches that frequency is 100 MHz or higher. Taguchi does not teach that frequency is lower than 450 MHz. "Official Notice" is taken that both the concept and the advantages of providing frequency lower than 450 MHz in this kind of systems are well known and well documented in the art. It would have been obvious to include upper limit to the higher frequency of operation and thereby reducing unnecessary extra noise that could be associated with higher frequencies. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

18. As to claim 15, AAPA discloses:

the high frequency component has a frequency of substantially 300 MHz [page 9, specification].

19. As to claim 16, Taguchi discloses:

the filter includes a high pass filter [HPF] [col. 5, lines 8-23].

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20. As to claim 17, Taguchi discloses:

the high frequency component has a frequency which is higher than a cut-off frequency of the filter [col. 5, lines 8-23].

NOTE: Here the Applicants are merely stating how a HPF works.

21.

22. Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over combination of AAPA and Taguchi as applied to claim 1 above, and further in view of Iwasa et al., US. patent 5,327,411 (hereafter Iwasa).

As to claim 9, combination of AAPA and Taguchi discloses all of the above elements including a multi-pulse waveform and a multi-pulse leading pulse, middle pulse and trailing pulse. Even though AAPA discloses a trailing pulse it is not clear if consist of multi-pulse or not. In other words where middle pulse stops and end pulse starts. The combination of AAPA and Taguchi does not specifically disclose well known details of trailing pulse or that trailing pulse could consist of multiple pulses itself, to the extent claimed.

However Iwasa clearly discloses:

the at least one of the plurality of multi-pulses includes a trailing multi-pulse [col. 9, lines 18-32; col. 12, lines 12-65; fig. 4 and especially fig. 17].

Both combination of AAPA and Taguchi, and Iwasa are interested in providing smooth signals and generating multi-pulse for forming regular marks without any tear-drop shape..

Therefore, it would have been obvious to provide the system of AAPA and Taguchi with pulse forming circuit [fig. 3, unit 4] and associated details as taught by Iwasa. The application or use of the pulse forming circuit as taught by Iwasa would have been obvious, because the pulse forming circuit performs the same function in the same way as the pulse forming circuit of AAPA and Taguchi system, and is an equivalent element. One of ordinary skill in the art would have recognized that the pulse forming

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circuit of Iwasa was equivalent and an obvious alternative to pulse forming circuit of system of AAPA and Taguchi.

23. Applicant's arguments filed on 1-2-04 (Paper # 11) have been fully considered but they are not deemed to be persuasive for the following reasons.

24. In the REMARKS, the Applicant argues as follows:

A) That: "Applicants note that in order to establish a prima facie case of obviousness ...

... That is, although a reference may be modified to run the way the apparatus is claimed, there must be suggestion or motivation in the reference to do so ...(Fed. Cir. 1990).' [page 10, para. 4 to page 11, para. 1-2; REMARKS].

FIRST: The examiner has provided the reason for combination [see [col. 5, lines 12-22].

SECOND: It should also be pointed out that:

The test of the obviousness is:

"whether the teachings of the prior art, taken as a whole, would have made obvious the claimed invention,". As shown in *In re Gorman*, 933 F. 2d at 986, 18 USPQ2d at 1888.

Subject matter is unpatentable under section 103 if it "'would have been obvious to a person having ordinary skill in the art.' While there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, **it is not necessary that the cited references or prior art specifically suggest making the combination.**" As shown in *In re Nilssen*, 851 F. 2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988).

Such suggestion or motivation to combine prior art teachings can derive solely from the existence of a teaching, which one of ordinary skill in the art would be presumed to know, and the use of that teaching to solve the same [or] similar problem which it addresses." As shown in *In re wood*, 599 F. 2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1979).

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"In sum, it is off the mark for litigants to argue, as many do, that an invention cannot be held to have been obvious unless a suggestion to combine prior art teachings is found in a specific reference." As shown in *In re Oetiker*, 24 USPQ2d 1443 (CAFC 1992).

Accordingly, AAPA, or Taguchi is not required to disclose or specifically suggest particular elements. Instead the measure is what the teachings of Taguchi would suggest to one of ordinary skill in the art, not what AAPA or Taguchi specifically suggests.

B) That: "Taguchi does not teach or suggest a filter for receiving the high frequency current and the recording current. In the present invention, the filter 515 is separate from the high frequency current section 519 and the recording and reproduction current generation section 518 (see Figure 3)." [page 12, para. 3; REMARKS].

FIRST: A Separate filter has not been claimed.

SECOND: Even if one would have been claimed, it should be pointed out that;

Although Taguchi may not disclose a separate filter to the extent claimed.

However separating parts from a main unit is well known in the art. It would have been obvious to a person of ordinary skill at the time of the invention to have separated these various parts such as filter in the system of Taguchi because doing so would make design more reliable and easy to repair as only bad part needs to be replaced and not the complete unit. As shown in "*In re Nerwin v. Erlichman* 168 USPQ 177 (1969)" these adjustments such as separating parts generally not given patentable weight or would have been obvious improvements.

C) That: "Additionally Taguchi does not teach or suggest that the high pass filter attenuates the enhanced high frequency component [original emphasis] included in the high frequency current generated by the high frequency current generation section and [original emphasis] the enhanced high frequency component [original emphasis]

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included in the recording current generated by the recording current generation section." [page 12, para. 4; REMARKS].

FIRST: The attenuation is inherent in NAY filters, and usually if signal gets too low one has to increase it.

SECOND: When signals gets separated they indeed inherently gets reduced.

D) That: Taguchi functions to detect a terminal voltage It does not turn a filter on/off for the purpose of super imposing an enhanced high frequency component onto a recording current as claimed. [page 12, para. 5; REMARKS].

FIRST: What else Taguchi does or does not do is not important since the claim starts with comprising.

SECOND : As the Applicants themselves has pointed out that Taguchi does indeed discloses a high pass filter which happens to be part of the current generator [page 12, para. 2; REMARKS], and this generators gets turned off/on. So by definition the filter also gets turned off/on exactly as claimed.

E) That : "nor would it be obvious to combine ..103 rejection." [page 13, para. 1; REMARKS].

See paragraph 25, section A), supra.

F) That: as to arguments presented on page 14 regarding linear velocity see new rejection of claims 1 etc., supra.

25. Applicant's arguments with respect to rest of the claims among 1-17 have been considered but are moot in view of the new grounds of rejection.

Allowable Subject Matter

26. Claims 20-21 and 23-25 are allowed over prior art of record..

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Claims 20-21 and 23-25 are allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose an optical disc which includes the control block which includes a linear velocity detection section and the switching section "the switching section cause the filter to operate so as to superpose high frequency component included in the recording current on at least one of the plurality of multi-pulses included in the pulse based on the linear velocity of the disc". It is noted that the closest prior art, Taguchi shows a similar apparatus which provides all the components and filter. However Taguchi fails to disclose a signal based on velocity that modifies the filter.

27. Applicant's amendment necessitated the new grounds of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact information

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

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Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

A handwritten signature in black ink, appearing to read "Gautam R. Patel", with a long horizontal line extending to the right.

Gautam R. Patel
Primary Examiner
Group Art Unit 2655

March 1, 2004